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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,281	01/25/2001	Chen-Ho Lee	4425-112	3639

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EXAMINER

YODER III, CHRISS S

ART UNIT PAPER NUMBER

2612

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/768,281

Applicant(s)

LEE, CHEN-HO

Examiner

Chriss S. Yoder, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiao et al. (US Patent # 6,538,695).
2. In regard to claim 1, note Xiao discloses the use of complementary metal-oxide-semiconductor sensor for dark calibration (column 1, lines 13-20; and figure 3) comprising a plurality of exposure control devices, each said exposure control device used for controlling a first electrical access to a photocell (figure 3: 111 is considered to be the exposure control device and controls access to the photocell, 110, with an exposure control device and photocell in each pixel, 11) and located between said corresponding photocell and in common a voltage line (figure 3: 111; Vdd is considered to be the common voltage line). Therefore, it can be seen that Xiao fails to disclose that the CMOS sensor is used in a linear sensor. Official notice is taken that the concepts and advantages of a CMOS image sensor being formed in any shape (including a line sensor) are well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Xiao device to include the use of line sensor in order for the sensor fit the application.

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3. In regard to claim 2, note Xiao discloses the use of a plurality of read-out control devices between said photocells and a transferring bus in common, said read-out control devices used for controlling a second electrical access from said photocells to said transferring bus (column 3, lines 57-58; and figure 3: 108 is considered to be the read-out control device and controls read out to common bus, 19, with a read-out control device each pixel, 11) and a plurality of reset control devices on a plurality of bypass (figure 3: 109 is considered to be the bypass, where it is reset by signal RS), each said bypass connected to an access between corresponding said photocell and said read-out control device (each bypass, 109, is located between photocell, 110, and read-out control device, 108).

4. In regard to claim 3, note Xiao discloses the use of a read-out control device that is coupled to a corresponding external circuit for purpose of reading-out (figure 3: read-out control device is connected to line 19; and figure 1: 19 is connected to external circuitry) .

5. In regard to claim 4, note Xiao discloses that the bypass is connected to a bias voltage supply circuit (figure 3: bypass, 109 is connected to bias voltage supply Vdd).

6. In regard to claim 5, note Xiao discloses that the exposure control device is coupled to an external circuit of exposure control (figure 3: 111; the exposure control device is coupled to an external circuit through the use of the TX signal which turns the exposure control device on or off in order to control the exposure of the photocell).

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7. In regard to claim 6, note Xiao discloses that the exposure control devices comprise a plurality of on/off switches (figure 3: 111; the use of a transistor is considered to be the functional equivalent of an on/off switch).

8. In regard to claim 7, note Xiao discloses that the photocells comprise a plurality of photodiodes (column 3, lines 55-56; and figure 3: 110; each photocell comprises a photodiode).

In regard to claim 8, note Xiao discloses the use of complementary metal-oxide-semiconductor sensor for dark calibration (column 1, lines 13-20; and figure 3) comprising a plurality of exposure control devices, each said exposure control device used for controlling a first electrical access to a photocell (figure 3: 111 is considered to be the exposure control device and controls access to the photocell, 110, with an exposure control device and photocell in each pixel, 11) and located between said corresponding photocell and in common a voltage line (figure 3: 111; Vdd is considered to be the common voltage line), a plurality of read-out control devices between said photocells and a transferring bus in common, said read-out control devices used for controlling a second electrical access from said photocells to said transferring bus (column 3, lines 57-58; and figure 3: 108 is considered to be the read-out control device and controls read out to common bus, 19, with a read-out control device each pixel, 11), and a plurality of reset control devices on a plurality of bypass (figure 3: 109 is considered to be the bypass, where it is reset by signal RS), each said bypass connected to an access between corresponding said photocell and said read-out control device (each bypass, 109, is located between photocell, 110, and read-out control

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device, 108). Therefore, it can be seen that Xiao fails to disclose that the CMOS sensor is used in a linear sensor of a scanner. Official notice is taken that the concepts and advantages of a CMOS image sensor being formed in any shape (including a line sensor) are well known and expected in the art. Official notice is also taken that the concepts and advantages of using a line sensor in a scanner are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Xiao device to include the use of line sensor in a scanner in order for the sensor fit the application and to lower the cost of manufacturing.

9. In regard to claim 9, note Xiao discloses the use of a read-out control device that is coupled to a corresponding external circuit for purpose of reading-out (figure 3: read-out control device is connected to line 19; and figure 1: 19 is connected to external circuitry) .

10. In regard to claim 10, note Xiao discloses that the bypass is connected to a bias voltage supply circuit (figure 3: bypass, 109 is connected to bias voltage supply Vdd).

11. In regard to claim 11, note Xiao discloses that the exposure control device is coupled to an external circuit of exposure control (figure 3: 111; the exposure control device is coupled to an external circuit through the use of the TX signal which turns the exposure control device on or off in order to control the exposure of the photocell).

12. In regard to claim 12, note Xiao discloses that the exposure control devices comprise a plurality of on/off switches (figure 3: 111; the use of a transistor is considered to be the functional equivalent of an on/off switch).

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13. In regard to claim 13, note Xiao discloses that the photocells comprise a plurality of photodiodes (column 3, lines 55-56; and figure 3: 110; each photocell comprises a photodiode).

14. In regard to claims 14-18, these are method claims, corresponding to the apparatus in claims 1-7. Therefore, claims 14-18 have been analyzed and rejected as previously discussed with respect claims 1-7.

15. In regard to claims 19-20, these are method claims, corresponding to the apparatus in claims 8-13. Therefore, claims 19-20 have been analyzed and rejected as previously discussed with respect claims 8-13.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US005500522A: note the use of an imager that injects a charge into the pixel.

US 20020118289A1: note the use of a photodiode with a barrier switch.

US006449014B1: note the use of a photodiode with a barrier switch.

US006538693B1: note the use of a photodiode with a barrier switch.

US006542194B1: note the use of a photodiode with a barrier switch.

US006760070B1: note the use of a photodiode with a barrier switch.

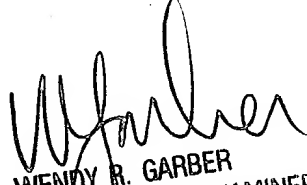
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chriss S. Yoder, III whose telephone number is (703) 305-0344. The examiner can normally be reached on M-F: 8 - 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CSY  
November 9, 2004

  
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